**DAY 1:**

Agenda: Syllabus, Building Consensus Activity, Error Correction, Bingo

**BUILDING CLASSROOM CONSENSUS ON NORMS**:

*Usually on the first day after handing out syllabus*

* Materials: 4+ dry erase markers
* At the beginning, announce to the class that they will set up guidelines for both the instructor and their classmates, and that they have a say in the classroom and the instructor respects democracy, etc.
* 5 min: Ask students to pair up with a partner, and have them interview each other on the following questions:
  + What was your most favorite class? What did the instructor do to make it great? How about the students?
  + What was your least favorite class? What made it terrible?
* Make a 2x2 matrix on the board (very large for each cell), where the columns are “do vs don’t” and rows are “teacher vs students”
* Ask several pairs of students to come up and write their responses from the interview.
* Add KEY ITEMS at the end from instructor that might get missed:
  + Time management, Cellphone rules, attendance, late homework, etc.
  + Give students a chance to add items

**MATH ACTIVITY:**

**FIND THE ERRORS AND CORRECT THEM**

This is a class activity for use the first or second day. Students should work on the activity in pairs, sharing one copy of the “Final Exam.” The “test” is an Algebra Final Exam. The errors are mistakes that past students have actually made (not all the same student). Students should work together to discuss the errors and solve the problems: They should:

* Find the mistake and discuss why a student might make it
* Write out a correct solution

OR

* For problems left blank follow the directions and solve the problem.

This activity can serve as a diagnostic tool for the instructor as well as a “wake up” or reminder to students of some of the algebraic tools they need to attend to or remember. Circulate through the room as students are working, to listen, answer questions, and give guidance where needed. Be taking note of what they know and what they need work on.

[You may need to interrupt this activity and save the rest for Day 3 if you plan to do the Bingo Icebreaker]

**BINGO (10-15 minutes)**

Icebreaker Bingo (Credit: Bryan Swartout)

* Create a bingo sheet (or use the one on iLearan) of NONACADEMIC common student interests:   
  Example: “Plays Overwatch”, “Play League of Legends”, “Enjoys EDM”, “49er’s Fan”, etc.
* Give instructions to students before getting them started. Remind them that they should be standing and walking around.
  + Ask students to mingle and write the name of people who fit the boxes.
  + The first person who gets a row, column or diagonal wins and gets some small prize (can be a lot of things, such as a bonus point to the first quiz, which is negligible in the long run but is a strong incentive.)
  + Ask students to collect contact information from four people, and remind students that they have a SFSU email account for this.
* Afterwards, if there is time, tell them that they can sync their SFSU email address with their personal email service (gmail/yahoo/hotmail etc), and recommend doing that if they haven’t done so.

**HOMEWORK:** Math Autobiography.

**DAY 2**

Agenda: Finish Activity 1: Test Correction (if needed), Work in groups on Activity 2: Equations and Inequalities, Do Bingo Icebreaker if not done on DAY 1.

Activity 2: Some Equations and an Inequality

For Activity 2 students should be in groups of 4 (3 is okay, but more than 4 does not work). The easiest way to do this in a classroom with desktop chairs is to first get a rough total count of students, and divide by 4. That number, *N* is the number to count to. Have students count off up to *N*, then start again etc. Give them 3 minutes to get into like-number groups and another 3-4 to introduce themselves and share something about what they did over winter break.

Hand out Activity 2: Some Equations and an Inequality, one copy per group. This is a review of all kinds of different equations they will need to solve. Groups should work together on each problem, each person doing the problem on their own paper, and being sure that all have correctly solved the problem before moving to the next problem. This is not a race to finish. There may be different ways to solve the same problem they should discuss them.

To encourage better groupwork you could tell them you will be circulating and giving extra points for groups that continue to work together. This is also a way for you to take role and learn your student’s names.

Allow 5-10 minutes to discuss problems that were difficult for several groups.

Do the Bingo Activity if you did not get a chance to on DAY !.

**HOMEWORK:**

**DAY 3**

Agenda: Finish Activity 2: Solving Equations (if needed), Activity 3: Matching Representations of Linear Functions.

**Materials:** 10 Dry Erase Markers & Copies of the linear puzzle. (There are 10 pages, each page with 4 representations of one linear function (enough for a class of 40). Make one copy of each page then cut the pages into four parts to distribute one part per student. NOTE: before you mix up the puzzle pieces you need to know how many students will be there the day you use them. If you have fewer than 40 students then take out sets of 4 as needed, or reduce several sets to 3 by taking out one piece and leaving it in front for the 3 to find once they’ve found each other. Once you know how many pieces you need be sure to mix them up before handing them out.)

Acivity 3: Matching Representations of Linear Functions

Give each student a puzzle piece that is one of four representations of a linear function. Tell them that each function can be seen in a situation, a graph, a table, or equations. Their job is to find the other three students with representations of the same function they have. So, if they have a graph, they must find the table, equation and situation that match their graph.

This is how they will form groups today. Students can introduce themselves and share one event they are looking forward to. Have the groups make a group list of names and ask them to clip their four puzzle pieces to their list.

After students have found their group mates, direct them to describe how they matched up their situations, graphs, tables, and equations. Give them the diagram below and have them describe all the connections. Different groups may have used different connections. See how many the class can come up with.

|  |  |  |
| --- | --- | --- |
| situation |  | graph |
|  |  |  |
| equation |  | table |

Students can work on the diagram in several ways. If you have a lot of white boards send students to the boards the draw the diagram and fill in the connections. If not we have small “white board posters” in sets of 10 (one for each group) in the GTA office. Of they can work on poster paper, or as a last resort just on paper in the middle of their group. We want them to make as many of the six two-way connections as they can.

When they are done, one group member can stay with their poster and the other three can circulate to see others, then return to see if they can add anything to their own.

SUMMARY

If there is time, put the graph of on the board and have groups write three other representations: table, equation and situation.

**HOMEWORK:**